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# **INDIANA**

# **Epidemiology**

## **NEWSLETTER**

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Epidemiology Resource Center  
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## **Preparing for the 2002-2003 Influenza Season**

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The adverse effects of influenza, including absenteeism from work and school, hospitalization and death can be reduced by immunization for both high-risk people and their health care providers. The following information is presented in order to prepare for the upcoming influenza season.

### **Influenza Vaccine Supply and Production**

Vaccine manufacturers are projecting 94 million doses of vaccine will be distributed by the end of November. The manufacturers licensed in the United States to manufacture influenza vaccine are Aventis Pasteur, Wyeth, and Evans Vaccines Ltd. Their telephone numbers are 1-800-822-2463, 1-800-358-7443 and 1-800-772-4346, respectively.

### **Influenza Vaccine Composition**

The trivalent influenza vaccine components for the 2001-02 season include:

- A/Moscow/10/99-like (H3N2)
- A/ New Caldonia/20/99-like (H1N1), and
- B/ Hong Kong/330/2001-like

These viruses will be used in manufacturing the vaccine because of their growth properties and their representativeness of the anticipated circulating influenza A and B viruses

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## Optimal time to vaccinate

Influenza vaccine obtained early in the season should be prioritized for those individuals who meet the definition of high risk and for those health professionals who have contact with high-risk people. This includes all office, volunteer and professional staff that has contact with the high-risk population. Optimally, these people should be vaccinated in October and November. Providers should offer vaccine to unvaccinated lower risk patients as vaccine becomes more available in November and December, but no earlier. Providers should continue to vaccinate their patients even after influenza activity has been detected in the community, as long as vaccine is available. In Indiana, in sixteen out of the last twenty years, influenza has peaked after mid-January. Therefore, administering influenza vaccine in November and December should give adequate time for sufficient antibody development for maximum protection against influenza.

## Target Groups for Vaccination

Vaccination is recommended for the following groups of persons who are at increased risk for complications from influenza:

- persons aged  $\geq 65$  years;
- residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions;
- adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;
- adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or by human immunodeficiency [HIV] virus);
- children and adolescents (aged 6 months--18 years) who are receiving long-term aspirin therapy and, therefore, might be at risk for developing Reye syndrome after influenza infection; and
- women who will be in the second or third trimester of pregnancy during the influenza season.

## Primary Changes and Updates in the Recommendations

The 2002 recommendations include four principal changes or updates, as follows:

1. The **optimal** time to receive influenza vaccine is during October and November. However, because of vaccine distribution delays during the past 2 years, ACIP recommends that **vaccination efforts in October focus on persons at greatest risk for influenza-related complications and health-care workers and that vaccination of other groups begin in November.**
2. Vaccination efforts for all groups should continue into December and later, for as long as vaccine is available.
3. Because young, otherwise healthy children are at increased risk for influenza-related hospitalization, influenza vaccination of healthy children aged 6--23 months is **encouraged when feasible**. Vaccination of children aged  $\geq 6$  months who have certain medical conditions continues to be strongly recommended.
4. A limited amount of influenza vaccine with reduced thimerosal content will be available for the 2002--2003 influenza season.

## Travelers

The following travelers should consider receiving influenza vaccine at least 2 weeks before travel if they were **NOT** vaccinated during the most recent fall or winter:

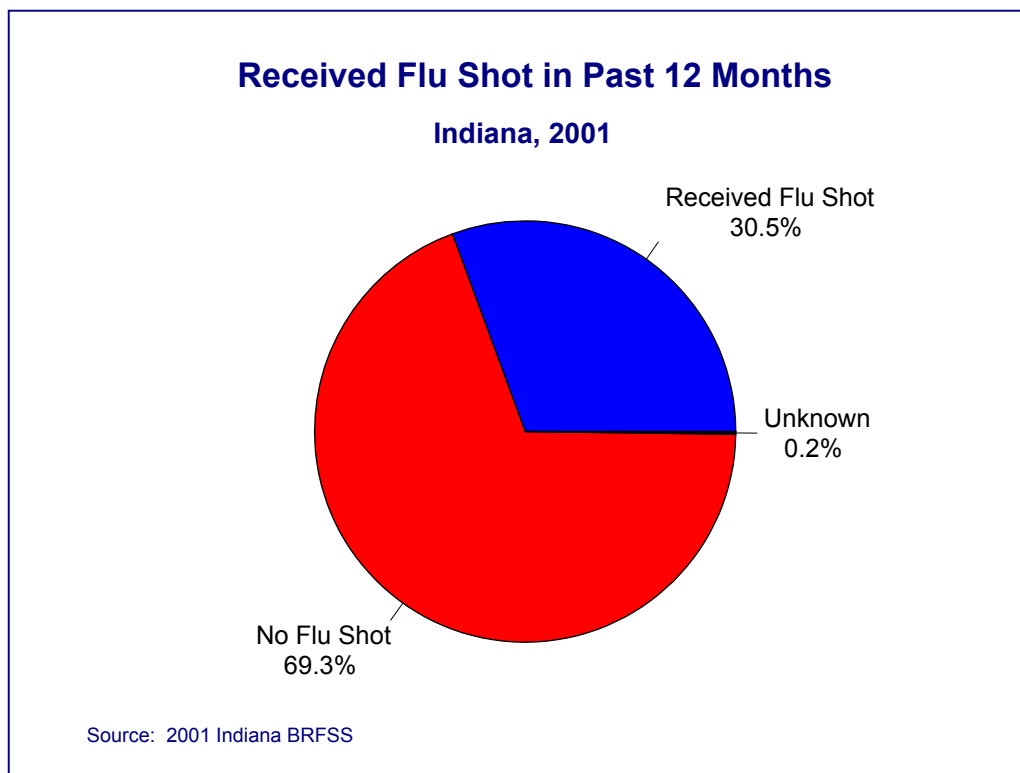
- Anyone at high-risk for influenza-related complications;
- Traveling to the tropics at any time of year,
- Traveling to the Southern Hemisphere from April through September,
- Traveling with large, organized tourist groups at any time of the year.

## Data from the Indiana Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual random-dial telephone survey of adults age 18 years and older. The survey is done through a cooperative agreement with the Centers for Disease Control and Prevention and all 50 states participate. Prevalence estimates for chronic, non-reportable conditions such as diabetes and asthma can be obtained from the BRFSS. The BRFSS relies on self-reported data. This type of survey has certain limitations that should be understood in the interpretation of the data. Many times respondents have the tendency to underreport some behaviors that may be considered socially unacceptable (smoking, body weight). Conversely, respondents may over report behaviors that are desirable (physical activity).

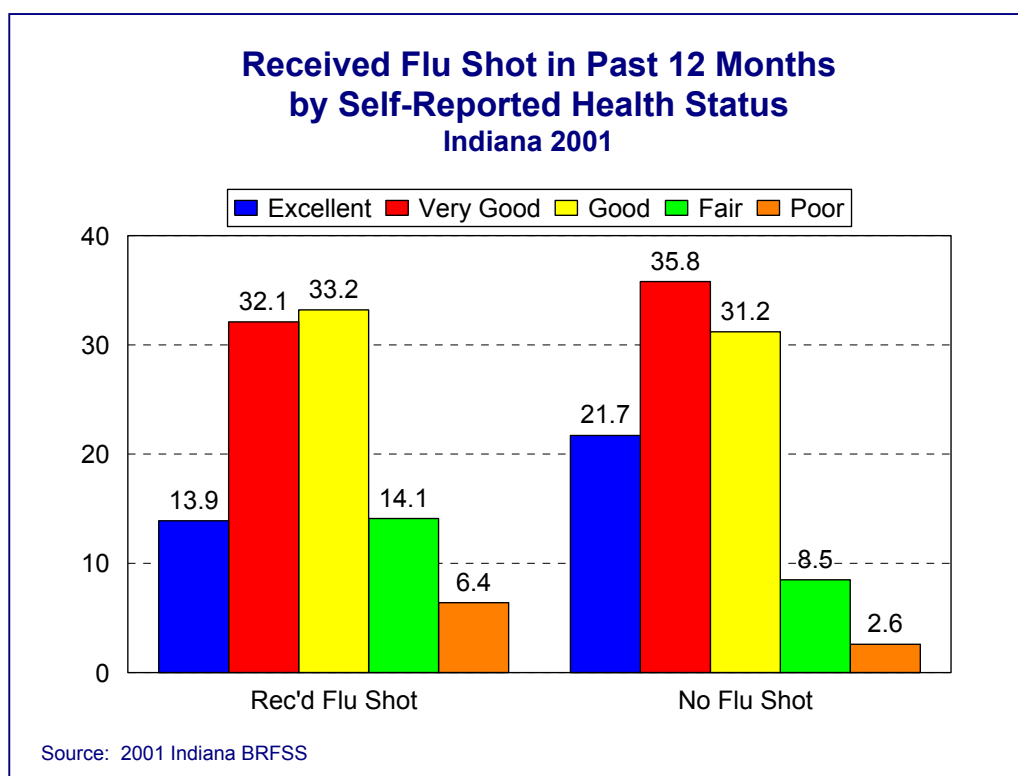
The 2001 BRFSS contained one question regarding influenza (flu) immunization. Respondents were asked if they had received a flu shot in the past 12. Overall, 30.5% of adult respondents had had a flu shot (Figure 1).

**Figure 1.**



Not surprisingly, the percentage of respondents that received a flu shot in the past twelve months increased with age, with the 65 and over age group having the highest percentage (65.6% vs. 23% for 18-64). Respondents that received a flu shot were more likely to have health care coverage, be of very good or good in their self-reported health status (see Figure 2), be a former smoker or had never smoked and be retired or unable to work. Respondents with high blood pressure were more likely to have received a flu shot compared to those that did not have high blood pressure (63.5% vs. 36.2%). Approximately 25% of those that received a flu shot had activity limitations due to health problems or impairments. White, non-Hispanic and other/multi race, non-Hispanic respondents were more likely to have received a flu shot than black or Hispanic respondents (31.4% and 33.0% vs. 21.1% and 20.5%, respectively). There was little difference in regards to education, sex or marital status.

**Figure 2.**



## Hospitalizations and Deaths from Influenza

The risks for complications, hospitalizations, and deaths from influenza are higher among persons aged  $\geq 65$  years, very young children, and persons of any age with certain under-lying health conditions than among healthy older children and younger adults (1,2,3,4,6). Estimated rates of influenza-associated hospitalizations have varied substantially by age group in studies conducted during different influenza epidemics.

Among children aged 0--4 years, hospitalization rates have ranged from approximately 500/100,000 population for those with high-risk conditions to 100/100,000 population for those without high-risk conditions (8,10). Within the 0--4 age group, hospitalization rates are highest among children aged 0--1 years and are comparable to rates found among persons aged  $\geq 65$  years (9,10).

During influenza epidemics from 1969--1970 through 1994--1995, the estimated overall number of influenza-associated hospitalizations in the United States ranged from approximately 16,000 to 220,000/epidemic. An average of approximately 114,000 influenza-related excess hospitalizations occurred per year, with 57% of all hospitalizations occurring among persons aged <65 years. Since the 1968 influenza A (H3N2) virus pandemic, the greatest numbers of influenza-associated hospitalizations have occurred during epidemics caused by type A (H3N2) viruses, with an estimated average of 142,000 influenza-associated hospitalizations per year (11).

Deaths from influenza are seasonal. From 1998 to 2001 (2001 data are provisional), 82 percent of the deaths that had influenza as the underlying cause occurred during the winter months of January through March. Deaths from influenza by month for 1998 through provisional 2001 are shown in Table 1.

**Table 1.**

**DEATHS WHERE INFLUENZA LISTED ON DEATH CERTIFICATE, INDIANA RESIDENTS, 1998-2001**

<b>Underlying Cause</b>	<b>Year</b>	<b>Total</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
Total	1998	29	7	16	3	1	1	0	0	0	0	1	0	0
	1999	51	1	12	21	6	1	1	0	1	0	1	1	6
	2000	38	29	7	0	0	0	0	0	0	0	0	0	2
	2001*	7	4	1	1	1	0	0	0	0	0	0	0	0
Flu with pneumonia	1998	10	1	7	1	1	0	0	0	0	0	0	0	0
	1999	12	0	4	5	1	0	0	0	0	0	0	0	2
	2000	19	14	4	0	0	0	0	0	0	0	0	0	1
	2001*	4	3	0	1	0	0	0	0	0	0	0	0	0
Flu with other respiratory manifestations	1998	15	4	7	2	0	1	0	0	0	0	1	0	0
	1999	24	1	6	10	3	0	1	0	1	0	0	1	1
	2000	7	7	0	0	0	0	0	0	0	0	0	0	0
	2001*	2	1	1	0	0	0	0	0	0	0	0	0	0
Flu with other manifestations	1998	0	0	0	0	0	0	0	0	0	0	0	0	0
	1999	1	0	0	1	0	0	0	0	0	0	0	0	0
	2000	0	0	0	0	0	0	0	0	0	0	0	0	0
	2001*	1	0	0	0	1	0	0	0	0	0	0	0	0
Other causes	1998	4	2	2	0	0	0	0	0	0	0	0	0	0
	1999	14	0	2	5	2	1	0	0	0	0	1	0	3
	2000	12	8	3	0	0	0	0	0	0	0	0	0	1
	2001*	0	0	0	0	0	0	0	0	0	0	0	0	0

\* Partial year, file not complete

Source: Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team, Oct., 2002

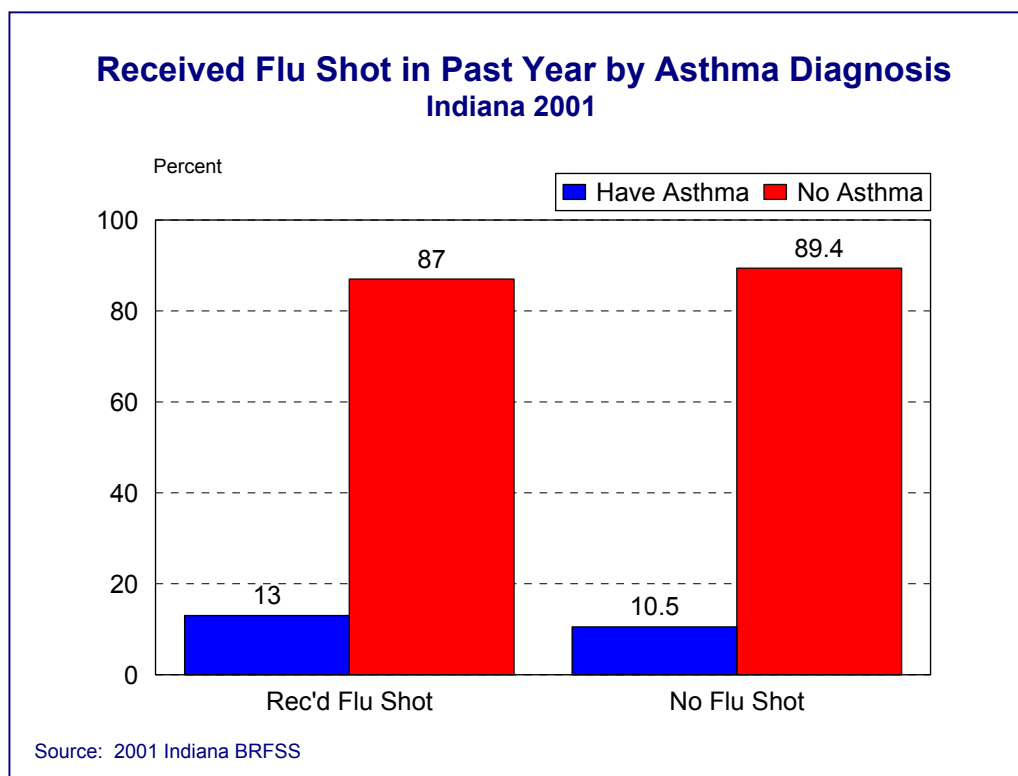
## Low Vaccination Rates of Specified Target Groups

The CDC reports that vaccination rates of children at high risk are low. One study conducted among patients in health maintenance organizations reported influenza vaccination rates ranging from 9% to 10% among children with asthma (12), and a rate of 25% was reported among children with severe-to-moderate asthma who attended an allergy and immunology clinic (13). However, a study conducted in a pediatric clinic demonstrated an increase in the vaccination rate of children with asthma or reactive airways disease of 5%--32% after implementing a reminder/recall system (14). Increasing vaccination coverage among persons who have high-risk conditions and are aged <65 years, including children at high risk, is the highest priority for expanding influenza vaccine use.

Annual vaccination is recommended for health-care workers. Nonetheless, the National Health Interview Survey (NHIS) indicated vaccination rates of only 34% and 38% among health-care workers in the 1997 and 2000 surveys, respectively (15) (unpublished NHIS data, NIP, CDC, 2002). Vaccination of health-care workers has been associated with reduced work absenteeism (5) and fewer deaths among nursing home patients (16,17).

People with serious lung problems or chronic illnesses such as diabetes or asthma should get a flu shot. However, many do not. According to the 2001 Indiana BRFSS data, only 11.4% of adults with diabetes received a flu shot in the past twelve months and only 13% of adults age 18 and older with a diagnosis of asthma had received a flu shot in the past twelve months (Figure 3).

**Figure 3.**



The time to get a flu shot is now. Adverse effects from influenza can be minimized or prevented by following the recommendations outlined in this article. The benefits of vaccination far outweigh the risks of influenza.

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## Procedures for Responding to Situations of Environmental Concern

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What if you're driving down the highway and see a truck carrying hazardous materials on fire? Or what if a friend or neighbor tells you that the local tire-recycling center has smoke bellowing from behind a fence? Or what if you witness a truck overturn and its liquid (or solid) contents spill all over the roadway? What if you suspect illegal dumping or a fish kill in a water body in your area?

These are examples of emergency situations that are handled by the **Indiana Department of Environmental Management (IDEM)** in the **Emergency Response Section**. This agency is responsible for responding to such events and coordinating with other state and local agencies (e.g., the Department of Health, fire department, etc.). The IDEM emergency response team is available to respond to emergencies 24 hours a day, 365 days a year.

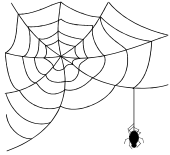
The Emergency Response group is housed within the agency's Office of Land Quality and can offer additional technical assistance (for example a chemist or geologist) to answer those questions related to toxic releases. Public calls are received via the IDEM 24-hour spill line at 1-888-233-7745 or locally at 317-233-7745.

If you would like more details on this and other related response protocols, you may access this information at the following website address:

<http://www.IN.gov/idem/macs/factsheets/whiteriver/report/appendixc.html>

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## ***Wonderful Wide Web Sites***

### **ISDH Data Reports Available**

**The ISDH Epidemiology Resource Center has the following data reports and the Indiana Epidemiology Newsletter available on the ISDH Web Page:**

<http://www.statehealth.IN.gov> (under Data and Statistics)

Indiana Cancer Incidence Report (1990, 95,96)	Indiana Mortality Report (1999, 2000)
Indiana Cancer Mortality Report (1990-94, 1992-96)	Indiana Natality Report (1995, 96, 97, 2000)
Indiana Health Behavior Risk Factors (1995-96, 97, 98, 99, 2000, 2001)	Indiana Induced Termination of Pregnancy Report (2000)
Indiana Hospital Consumer Guide (1996)	Indiana Natality/Induced Termination of Pregnancy/Marriage Report (1998, 1999)
Indiana Marriage Report (1995, 97, 2000)	Indiana Report of Diseases of Public Health Interest (1996, 97, 98, 99)
Indiana Maternal & Child Health Outcomes & Performance Measures (1988-97, 1989-98, 1990-99)	

## **HIV Disease Summary**

**Information as of September 30, 2002 (based on 2000 population of 6,080,485)**

### ***HIV - without AIDS to date:***

453	New HIV cases from October 2001 thru September 2002	12-month incidence	7.45 cases/100,000
3,644	Total HIV-positive, alive and without AIDS on September 30, 2002	Point prevalence	59.93 cases/100,000

### ***AIDS cases to date:***

478	New AIDS cases October 2001 thru September 2002	12-month incidence	7.86 cases/100,000
3,153	Total AIDS cases, alive on September 30, 2002	Point prevalence	51.86 cases/100,000
6,825	Total AIDS cases, cumulative (alive and dead)		

## REPORTED CASES

 of selected notifiable diseases

Disease	Cases Reported in September <i>MMWR</i> Week 36-39		Cumulative Cases Reported January - September <i>MMWR</i> Weeks 1-39	
	2001	2002	2001	2002
Campylobacteriosis	56	23	354	351
Chlamydia	1,600	1,690	7,760	8,294
<i>E. coli</i> O157:H7	11	3	67	43
Hepatitis A	14	3	76	37
Hepatitis B	2	7	38	39
Invasive Drug Resistant <i>S. pneumoniae</i> (DRSP)	10	6	144	132
Gonorrhea	739	690	3,265	3,483
Legionellosis	2	1	15	15
Lyme Disease	2	3	20	17
Measles	0	0	4	2
Meningococcal, invasive	2	0	31	24
Pertussis	17	30	63	91
Rocky Mountain Spotted Fever	0	0	1	2
Salmonellosis	48	24	406	345
Shigellosis	11	7	167	71
Syphilis (Primary and Secondary)	16	2	90	30
Tuberculosis	7	11	74	87
Animal Rabies	1 (Bat)	4 (Bats)	2 (Bats)	30 (29 Bats 1 Skunk)

**For information on reporting of communicable diseases in Indiana, call the *ISDH* Communicable Disease Division at (317) 233-7665.**

**Indiana**  
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**Newsletter**

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